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COVID-19 Vaccination on Brazil and the Crocodile Side-effect

Matheus Negri Boschiero Camila Vantini Capasso Palamim Fernando Augusto Lima Marson BSc MSc PhD

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COVID-19 Vaccination on Brazil and the Crocodile Side-effect

Running title: COVID-19 Vaccination on Brazil

Matheus Negri Boschiero^{1,#}; Camila Vantini Capasso Palamim^{1,#}; Fernando Augusto Lima Marson^{1,*,#}

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¹ Laboratory of Cell and Molecular Tumor Biology and Bioactive Compounds and Laboratory of Human

and Medical Genetics, University of São Francisco, 12916-900 Bragança Paulista, São Paulo, Brazil.

[#] The authors contributed equally to this study.

* Corresponding author: [FALM] Fernando Augusto Lima Marson, BSc, MSc, PhD.

University of São Francisco; Post graduate Program in Health Science; Laboratory of Cell and Molecular

Tumor Biology and Bioactive Compounds and Laboratory of Human and Medical Genetics. Avenida São

Francisco de Assis, 218. Jardim São José, 12916-900 Bragança Paulista, São Paulo, Brazil. Phone +55 19

9769 2712. E-mail: fernandolimamarson@hotmail.com and fernando.marson@usf.edu.br

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E-mail:

MNB: negri.matheus@bol.com.br

ORCID: https://orcid.org/0000-0002-2866-391X

CVCP: cvcpalamim@gmail.com

 $ORCID: \ https://orcid.org/0000-0001-6825-1154$

FALM: fernandolimamarson@hotmail.com and fernando.marson@usf.edu.br

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Dear editor, the article entitled as "The UK has approved a COVID vaccine — here's what scientists now want to know" denotes the UK as the first country to implement the COVID-19 vaccination in a large scale [1]. It was also described the efforts to solve the questions from Scientific community regarding the vaccine efficacy. However, despite all the dilemmas, the UK was able to promote the initiation of vaccination according to scientific evidence from large clinical trial [2,3]. In contrast, Brazil failed in many aspects to control COVID-19 pandemic, such as to promote the diagnostic testing the SARS-CoV-2 infection, to treat the individuals with COVID-19 mainly severe patients, and now, to give the vaccines to the population.

The Brazilian government minimized the severity of the pandemic and discredited the vaccines. Nowadays the President Jair Bolsonaro uses the vaccination for his own political benefit and claims the CORONAVac is the "Brazilian vaccine", even though, in his social media, he constantly called it the Chinese vaccine or the vaccine from the governor Mrs. João Doria, also, the financial support to perform the studies for CORONAVac were obtained from Health Secretariat of the State of São Paulo.

The chief of executive played with lives in its political game, using the COVID-19 catastrophe to promote its beliefs, including the COVID-19 as a "little" flu and indicating as a side-effect of vaccine the transformation into a crocodile. Sadly, it was not a joke. It was the Brazilian President discussing the efficacy of the Pfizer vaccine, under the applause of his follower, to prevent the COVID-19 pandemic, which caused the death of more than 260,000 Brazilian citizens. Bolsonaro also made fun of the 50.4% efficacy of the CORONAVac, even though his approval rating is lower than 30%, stating that this vaccine would be like taking off heads or tails.

Brazil started the COVID-19 vaccination on 16 January 2021, however, only 8.7 millions individuals were vaccinated (~4% of the population) until now, what puts Brazil behind several other countries, such as Israel, UK and France, in fact, Israel is the country with most vaccination per 100,000 inhabitants, which might have contributed to the 60% decrease in hospitalizations of elderly associated with COVID-19 [4]. On the Brazil's first phase of vaccination, only frontline health care workers, indigenous and elderly people with restrictions should receive the vaccine, nevertheless, several reports showed individuals who are not even physicians "sticking line", in order to receive the vaccine.

The Brazilian President waited to receive pharmaceutical proposals to purchase the vaccine; however, he forgot that the demand for vaccines is greater than their availability. In addition, the ANVISA (Brazilian National Agency of Sanitary Monitoring) imposed several restrictions to the vaccines, including the Pfizer. CoronaVac, a vaccine produced by Sinovac Life Science Co in partnership with Instituto Butantan was also under restrictions from Bolsonaro and ANVISA. Maybe, due to the association between the CoronaVac and the Governor of São Paulo – Mr. João Doria. Today, the CoronaVac vaccine is also authorized in UK. It is regrettable to live under the posture from our government while International's agencies, such as FDA and other governments authorize the vaccines due to the efficacy described in large clinical trials. Perhaps, the early vaccination could provide better control of the COVID-19 in places where the heathy system collapsed in Brazil. For instance, Manaus, which is the capital city of Amazonas, has 100% of intensive care units with COVID-19 patients. The patients are treated inside bathrooms, in front of hospital, and the oxygen support was not sufficient to treat all citizens. The vaccine in large scale could solve or, at least, minimize such situation. Moreover, Brazil was a Defensor of Chloroquine,

Hydroxychloroquine and Ivermectin treatment for COVID-19 patients; and millions of dollars were spent to purchase such drugs. The Executive spent 1.8 billion of real to purchase food for the government, including millions of reals to acquired chewing gum and condensed milk, lobster, champagne, seafood and others. Why not use that money to purchase vaccines, oxygen, respirators and diagnostic tests?

Brazilian government and ANVISA wasted time to authorize the vaccines while people died. Them, we do not need political games; we need to save lives. Finally, Brazil deserved to be categorised as one of the worst countries to manage the COVID-19 pandemic as demonstrated by the COVID-19 performance index elaborated from Lowy Institute.

Reference

- [1] Ledford H, Cyranoski D, Noordenm RV. The UK has approved a COVID vaccine here's what scientists now want to know. Nature 2020;588:205-6. doi: 10.1038/d41586-020-03441-8
- [2] Polack FP, Thomas SJ, Kitchin N, Absalon J, Gurtman A, Lockhart S, et al. Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine. N Engl J Med 2020;383:2603-15. doi: 10.1056/NEJMoa2034577.
- [3] Mulligan MJ, Lyke KE, Kitchin N, Absalon J, Gurtman A, Lockhart S, et al. Phase I/II study of COVID-19 RNA vaccine BNT162b1 in adults. Nature 2020;586:589-93. doi: 10.1038/s41586-020-2639-4
- [4] OurWorldData. Coronavirus (COVID-19) Vaccinations. 2021. Accessed on 24 February 2021. Available at https://ourworldindata.org/covid-vaccinations.
- [5] COVID-19 performance index Lowy University. Deconstructing Pandemic Response. 2021. Accessed on 10 March 2021. Available at https://interactives.lowyinstitute.org/features/covid-performance/.